

**National Weather Service**

***"Working Together to Save Lives"***

**FY 2002**

**Annual Operating Plan**

**January 22, 2002**

## Table of Contents

	<u>Pages</u>
Mission	2
Planning Assumptions/Overview	2
1.0 Program Information/Planned Accomplishments	
1.1 NWS Objectives	3
1.2 NWS Performance Measures	3
1.3 NWS Milestones	4-10
1.4 Due Dates/Reports	10
2.0 Legislative Information	10
2.1 Proposed Transfers/Reprogramming	10
2.2 Add-ons/New Starts/Terminations	10
3.0 Management Issues	
3.1 Diversity	11
3.2 Affirmative Action	12
3.3 Employee Development and Training	13
3.4 Environmental Compliance	14
4.0 Other Information	
4.1 Minority Serving Institutions	14
4.2 Validation and Verification	15

## **FY 2002 Annual Operating Plan**

### **Mission:**

*The National Weather Service provides weather, water, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure, which can be used by other government agencies, the private sector, the public and the global community.*

### **Vision:**

America's "No Surprise" Weather Service

- Produce and Deliver Quality Forecasts You Can Trust When You Need Them Most
- Use Cutting-edge Techniques
- Provide Services in a Cost-effective Manner
- Strive to Eliminate Weather-Related Fatalities and Improve the Economic Value of Weather Information

### **Overall Planning Assumptions**

The NWS FY 2002 Annual Operating Plan is based on a FY 2002 NWS appropriation of \$743.0M, an increase of \$50.3M over the FY 2001 appropriation. This includes \$672.3M for the Operations, Research, & Facilities (ORF) account and \$70.7M in the Procurement, Acquisition, and Construction (PAC) account.

Funding levels provided in the appropriation will enable the NWS to continue to improve climate, weather, and water services and achieve the goals of the NOAA and NWS Strategic Plans and the performance measure targets included in the FY 2002 DOC Annual Performance Plan. The plan also supports other key NOAA initiatives including, NOAA Energy Test Pilot, NOS Coastal Storms Initiative, and the NOAA Climate Observations and Services Program. However, the milestones in this plan do not reflect any adjustments for the final allocation of NOAA Corporate Costs in the base or procurement accounts. The NWS operating plan will be amended after receipt and consideration of this information.

## 1.0 Information/Planned Program Accomplishments

### 1.1 National Weather Service (NWS) Objectives

The milestones in this plan are presented in accordance with the five major goals in the NWS Strategic Plan: 1) Deliver Better Products and Services, 2) Capitalize on Scientific and Technological Advances, 3) Exercise Global Leadership, 4) Change the Organizational Culture, and 5) Manage NWS Resources.

### 1.2 NWS Performance Measures

The FY 2002 theme for the NWS will be "Working Together to Save Lives." In FY 2002, NWS will continue our agency-wide focus to meet performance targets. The FY 2002 goals have been revised to reflect the results of an agency level review and statistical trend analysis for each GPRA measure. The goals reflect operational use of science and technology advancements. In support of the NOAA and NWS Strategic Plan, the NWS has set the following performance goals for FY 2002:

	FY01 <u>Actual</u>	FY02 <u>Goal</u>
Tornado Warning		
Lead Time (minutes)	10	11
Accuracy (%)	68	69
False Alarm Rate (%)	72	71
Flash Flood Warning		
Lead Time (minutes)	46	45
Accuracy (%)	86	86
Winter Storm Warning		
Lead Time (hours)	13	13
Accuracy (%)	90	86
Hurricane Landfall Warning (hours)	N/A	Removed
Hurricane Track Forecasts (48 Hours)	N/A	142
Aviation Forecasts (Ceiling/Visibility)		
Accuracy (%)	18	18
False Alarm Rate (%)	51	52
Marine Forecasts (Wind/Wave)		
Accuracy (%)	52	53
Precipitation Forecasts		
Accuracy of Day-3 Forecast (%)	19	17
U.S Seasonal Temperature Skill	20	20

### 1.3 NWS Milestones

#### Deliver Better Products and Services

##### *Public Services*

- Implement experimental wind chill products for days 3-14 (1<sup>st</sup>)
- Complete agreement with the U.S. Air Force to relocate NEXRAD Radar from Keesler Air Force Base to Jackson, MS (1<sup>st</sup>)
- Update policy for issuing winter weather warnings (1<sup>st</sup>)
- Implement Day 3 Convective Outlook, by issuing the text and probability graphic via AWIPS (1<sup>st</sup>)
- Provide new experimental winter weather products and services (1<sup>st</sup>)
- Provide weather support for the 2002 Winter Olympics (2<sup>nd</sup>)
- Finalize plans to establish a Weather Forecast Office in Huntsville, Alabama (2<sup>nd</sup>)
- Conduct National Severe Thunderstorm Workshop with Emergency Management Community (2<sup>nd</sup>)
- Provide Model Output Statistics (MOS) guidance products for 300 additional sites (2<sup>nd</sup>)
- Begin pilot project to provide emergency managers with direct access to NOAA Weather Radio (2<sup>nd</sup>)
- Host Hurricane Preparedness Tour at selected coastal locations (3<sup>rd</sup>)
- Provide Heat Index product suite for Days 4-7 (3<sup>rd</sup>)
- Deploy improved voice capability for NOAA Weather Radio (NWR) (3<sup>rd</sup>)
- Issue daily hazardous weather outlooks from all WFOs (4<sup>th</sup>)
- Participate in joint NWS/OAR temperature and air quality forecast pilot program in New England (4<sup>th</sup>)
- Complete assessment (first year of two year evaluation) of FAA radar in Williston, ND (4<sup>th</sup>)
- Develop prototype Spanish website for national distribution (4<sup>th</sup>)
- Recognize 50 new StormReady Communities (4<sup>th</sup>)
- Refurbish 10 stations in the existing NWR Network (4<sup>th</sup>)
- Install 80 new NWR transmitters using Congressional and Partnership funding (4<sup>th</sup>)
- Recognize the third TsunamiReady community (4<sup>th</sup>)

##### *Flood Forecasting*

- Implement Flood Potential Outlook (1<sup>st</sup>)
- Implement new flash flood decision assistance tools (FFMP) (2<sup>nd</sup>)
- Implement Phase I of multi-year North Carolina Flood Mapping Project (2<sup>nd</sup>)
- Provide AHPS flood inundation mapping services for the Susquehanna River at Lewistown, PA (4<sup>th</sup>)

- Provide AHPS products for the Tar River Basin (4<sup>th</sup>)
- Implement AHPS at 109 locations through the North Central, Ohio, Northeast, Middle-Atlantic and Southeast River Forecast Centers (4<sup>th</sup>)
- Complete assessment of IFLOWS communication systems to improve data access and quality (4<sup>th</sup>)

#### *Marine Services*

- Establish first year baseline for Great Lakes forecast and warning performance (3<sup>rd</sup>)
- In partnership with National Safety Council and National Safe Boating Council, evaluate effectiveness of current products and services for small boat marine community (3<sup>rd</sup>)
- Begin evaluation of experimental 4 and 5 day hurricane forecasts (4<sup>th</sup>)
- Complete evaluation of impact of new buoys on products and services (4<sup>th</sup>)
- Deploy 3 Alaskan buoys (4<sup>th</sup>)
- Deploy 1 buoy in New England (4<sup>th</sup>)

#### *Aviation Services*

- Begin operational use of new integrated icing guidance product (1<sup>st</sup>)
- Begin verification program at Central Weather Support Units (CWSUs) (1<sup>st</sup>)
- Develop a plan with the FAA to deploy new aviation weather equipment at sites in Alaska (2<sup>nd</sup>)
- Implement Standardized Airport Weather Warning Verification System (2<sup>nd</sup>)
- Renew memorandum of agreements with NASA and FAA for aviation activities (4<sup>th</sup>)
- Conduct aviation workshops in all NWS Regional Headquarters (4<sup>th</sup>)
- Complete second phase of ASOS augmentation and backup transfer from the NWS to the FAA (4<sup>th</sup>)
- Expand Email Warning System (E-Warn) to four additional WFOs (4<sup>th</sup>)

#### *Fire Services*

- Implement the Western Region SPOT Forecast Request and Dissemination System (WRSPOT) Nationwide (2<sup>nd</sup>)
- Establish National baseline for Fire Weather Warning and Forecast Products (3<sup>rd</sup>)
- Update the NWS-California Wildfire Coordinating Group Agreement for fire weather services in California (4<sup>th</sup>)

- Negotiate the Memorandum of Agreement for Fire Weather Service between the US Department of Interior, US Department of Agriculture, National Association of State Foresters, and the NWS (4<sup>th</sup>)

#### *Climate Services*

- Hold a workshop for the weather risk management industry (1<sup>st</sup>)
- Develop partnership agreement with the Department of Agriculture to fund and implement the NWS COOP modernization (3<sup>rd</sup>)
- Install 65 new COOP observing temperature sensors in New England (3<sup>rd</sup>)
- Implement new climate website and teletraining for field forecasters (4<sup>th</sup>)
- Begin retrofits to 700 Fisher Porter Rain gauges and 200 max/min temperature sensors (4<sup>th</sup>)

### **Capitalize on Scientific and Technological Advances**

#### *Expand Cooperation with Research Community*

- Award Eight CSTAR and COMET Applied Research Grants (4<sup>th</sup>)
- Participate in cooperative hydrologic research projects with MIT, University of Arizona, Princeton University, University of Iowa, and National Severe Storms Laboratory (4<sup>th</sup>)
- Complete NWS Science and Technology Infusion Plan (4<sup>th</sup>)
- Finalize MOU with NASA Marshall Spaceflight Center to support a collaborative effort to refine and improve warning decision practices using local modeling capabilities (4<sup>th</sup>)

#### *Data Assimilation/Numerical Modeling*

- Implement 12 km Eta forecast system for North American domain (1<sup>st</sup>)
- Implement non-hydrostatic 8 km Mesoscale model for CONUS, Alaska, Hawaii, Puerto Rico (2<sup>nd</sup>)
- Incorporate NEXRAD data in Eta Model (3<sup>rd</sup>)
- Use community fast radiative transfer model in NCEP global data assimilation system (3<sup>rd</sup>)
- Implement high resolution wave forecast model for the West Coast and Hawaii (4<sup>th</sup>)
- Establish and complete first year research activities for USWRP sponsored hurricane test bed (4<sup>th</sup>)
- Use ~55km grid resolution in global forecast model (4<sup>th</sup>)

## *Technology*

- Complete deployment of AWIPS Build 5.1.2 (2<sup>nd</sup>)
- Complete development of two new algorithms for the NEXRAD (i.e. Enhanced Precipitation and Snow Accumulation) (2<sup>nd</sup>)
- Implement prototype software on National Digital Forecast Database (NDFD) central server(2<sup>nd</sup>)
- Complete migration to LINUX workstations (i.e. deploy 200 units) (4<sup>th</sup>)
- Complete NDFD demonstrations at selected WFOs (4<sup>th</sup>)
- Deploy 332 LINUX based communications processors (4<sup>th</sup>)
- Complete ORPG retrofits for 164 NEXRAD radars (4<sup>th</sup>)
- Complete deployment of AWIPS 5.2.1 (4<sup>th</sup>)
- Complete ASOS ACU Processor deployment(4<sup>th</sup>)
- Qualify ASOS all weather precipitation accumulation sensor (4<sup>th</sup>)
- Complete Operational Acceptance Testing for the ASOS Ice-Free wind sensor (4<sup>th</sup>)

## **Exercise Global Leadership**

### *Increase U.S. participation in international activities*

- Begin bilateral activities with Viet Nam and Korea (1<sup>st</sup>)
- Complete U.S. Hurricane Mitch Reconstruction technology transfer project (1<sup>st</sup>)
- Lead U.S. delegation to annual meeting of International Data Buoy Cooperation Panel (1<sup>st</sup>)
- Expand Regional Maintenance Project to include automatic weather stations (2<sup>nd</sup>)
- Develop cooperative projects with Meteorological Services of Pacific Rim and African Countries (2<sup>nd</sup>)
- Renew bilateral agreements with Canada and Mexico (3<sup>rd</sup>)
- Include U.S. private sector and UCAR representatives as members of U.S. delegation to WMO Executive Council annual meeting (3<sup>rd</sup>)
- Install 3 new hydrogen generators in Caribbean Hurricane Upper Air System (CHUAS) network (3<sup>rd</sup>)
- Participate on NOAA team renegotiating the Pacific Island Compact agreement (3<sup>rd</sup>)
- Define the structure of a tsunami warning system for the Caribbean area (3<sup>rd</sup>)
- Host bilateral meeting with the China Meteorological Administration (3<sup>rd</sup>)
- Increase number of Ham radio operator observing stations in the Caribbean area to 65 (4<sup>th</sup>)

*Foster national and international education efforts*

- Sponsor Spanish-language Web Master training course in Curacao (1<sup>st</sup>)
- Conduct a hurricane awareness tour to Caribbean countries and Mexico (3<sup>rd</sup>)
- Train 24 international experts on elements of weather and climate forecasting at the NWS International Tropical, South America, African Climate, Saudi, and Pacific Desks (4<sup>th</sup>)

**Change the NWS Organizational Culture**

*Enhance professional development, training programs, and diversity*

- Evaluate NWS Telework Pilot (2<sup>nd</sup>)
- Complete new employee orientation information package and website (2<sup>nd</sup>)
- Initiate a new resident climate training course for NWS and other forecasters (2<sup>nd</sup>)
- Implement Collective Bargaining Agreement (2<sup>nd</sup>)
- Complete initial IFPS Focal Point Training for all field IFPS focal points and managers (3<sup>rd</sup>)
- Release three case study scenarios for use with the new "Weather Event Simulator" workstation (3<sup>rd</sup>)
- Participate in Presidential Management Intern (PMI) Program (3<sup>rd</sup>)
- Develop the NWS Telework Program (3<sup>rd</sup>)
- Provide team training for up to 200 employees in 12 field offices (3<sup>rd</sup>)
- Draft NWS Strategic Workforce Plan (4<sup>th</sup>)
- Complete steps required by NOAA as a result of SFA-II (4<sup>th</sup>)

*Improve the representation of women, minorities, and people with disabilities*

- Recruit 37 students for the DOC Post Secondary Internship and NOAA Faculty/Student Intern Research Program (3<sup>rd</sup>)
- Recruit at least 8 students for the High School/High Tech and Workforce Recruitment Program (WRP) (3<sup>rd</sup>)
- Participate in and support programs such as the Oak Ridge Institute of Science and Education (ORISE), the Student Temporary Employment Program (STEP) and other programs as a means of increasing representation (4<sup>th</sup>)
- Increase representation of women, minorities, and people with disabilities by 1% (4<sup>th</sup>)
- Distribute vacancy announcements to women and minority sources (4<sup>th</sup>)

- Participate in the Student Career Experience Program (SCEP) established by NWS and Howard University (4<sup>th</sup>)
- Host NWS EEO Conference(4<sup>th</sup>)

## **Manage NWS Resources**

### *Leverage Information Technology/Infrastructure*

- Recommend new facility location for the Weather and Climate Supercomputer (2<sup>nd</sup>)
- Complete IT Security Accreditation for major NWS IT systems and field units (3<sup>rd</sup>)
- Extend the secure NCEP network architecture to include the Tropical Prediction Center, Aviation Weather Center, and Storm Prediction Center (3<sup>rd</sup>)
- Award contract for the new Weather and Climate Supercomputer (3<sup>rd</sup>)
- Complete deployment of the Transition Power Maintenance System (TPMS) (at 16 NEXRAD sites) (4<sup>th</sup>)
- Begin operation of the backup AWIPS Network Control Facility (4<sup>th</sup>)
- Conduct security reviews for 33% of IT systems (4<sup>th</sup>)

### *Ensure Cost Efficiency/Management*

- Participate in CAMS implementation pilot project (1<sup>st</sup>)
- Begin A-76 study for the NWS Telecommunications Gateway (1<sup>st</sup>)
- Implement NWS Position Management System (3<sup>rd</sup>)
- Prepare 2002 FAIR Act inventory (3<sup>rd</sup>)
- Initiate a second A-76 study (3<sup>rd</sup>)
- Conduct CAMS readiness review(3<sup>rd</sup>)
- Conduct cost accounting reviews for NWS Regional Offices (4<sup>th</sup>)
- Complete implementation of cost accounting system at Headquarters Offices and NCEP (4<sup>th</sup>)
- Implement CAMS per NOAA guidance (4<sup>th</sup>)

### *Construction/Relocation*

- Award construction contract for the Alaska Tsunami Warning Center (WC/ATWC) (2<sup>nd</sup>)
- Complete construction on Tallahassee, Florida WFO (2<sup>nd</sup>)
- Complete relocation of Central Region Headquarters (2<sup>nd</sup>)
- Complete expansion of WFO Sterling, VA (3<sup>rd</sup>)
- Begin design and detailed planning efforts for the proposed new NCEP Facility (3<sup>rd</sup>)
- Begin modernization of and repairs at one WSO in Alaska (4<sup>th</sup>)
- Complete construction of WFO Caribou and move to new facility (4<sup>th</sup>)

- Complete retrofits of Heating, Ventilation, and Air-conditioning (HVAC) units at 5 field offices (4<sup>th</sup>)
- Award construction contract for the NWS Telecommunications Gateway backup at Mt. Weather facility (4<sup>th</sup>)
- Conduct environmental assessment and engineering design for new Key West WFO facility(4<sup>th</sup>)

#### **1.4 NWS Activities/Due Dates (Congressional Reports)**

The FY 2002 CJS Appropriation Conference Report refers to language in the Senate Report regarding Williston, North Dakota and Erie, Pennsylvania Weather Offices. The language directs NWS to ensure the Federal Aviation Administration is implementing the agreement between the NWS and FAA to fully address the requirements for these areas in FY 2002. NWS is directed to report to the Appropriations Committees on the progress of implementing this agreement by February 14, 2002. The report was finalized on January 9<sup>th</sup>, 2002 and sent to NOAA for approval on January 10<sup>th</sup>, 2002.

## **2.0 Legislative Information**

### **2.1 Proposed Transfer/Reprogrammings:**

N/A

### **2.2 Add-ons/New Starts/Terminations:**

#### Add-ons

- *Huntsville Weather Forecast Office:* \$3.0M to establish a Weather Forecast Office in Huntsville, Alabama.
- *NEXRAD:* \$3.1M to relocate the Keesler NEXRAD radar to Jackson, Mississippi.
- *NOAA Weather Radio (NWR) Transmitters:* \$1.8M for NWR transmitters in Maine, New Hampshire, South Dakota, Wyoming, and Wisconsin.
- *Data Buoys:* \$.75M to install 3 buoys in New England in accordance with the National Research Council Report.
- *Flood Mapping and Services:* \$4M to continue implementation of the North Carolina Flood Mapping Project.
- *Mt. Washington Observatory:* \$.5M for the collection of observations and continue improvements to the visitors museum at Mount Washington Observatory.

- *North Dakota Agricultural Weather Network*: \$.27M to continue North Dakota State University's implementation of the North Dakota Agricultural Weather Network.
- *Alaska Aviation Weather*: \$4M to begin installation of aviation weather equipment in remote Alaskan villages.
- *Advanced Hydrologic Prediction Service (AHPS)*: \$.5M to accelerate implementation of AHPS in the Upper Midwest and New England.

#### New Starts

- *NWS Telecommunications Gateway Backup*: \$7.5M to procure and install a backup system at FEMA's Mt. Weather Facility
- *NCEP's Environmental Modeling Center*: \$1.7M to reduce dependence on research related "soft" money and provide base funding for development and maintenance of operational forecast models.
- *NCEP's Data Assimilation and Modeling*: \$1.1M to accelerate use of new satellite derived observations into NCEP operational prediction models.
- *Cooperative Observer Network*: \$1.8M to replace 700 rain gauges and 200 temperature sensors.

#### Terminations

- *Evansville Doppler Radar*: -\$5.5M to reflect the one-time procurement cost associated with the radar.
- *2002 Winter Olympic Support*: -\$0.59M to reflect the full funding for the University of Utah efforts to support the 2002 Olympics in Salt Lake City, Utah.

### **3.0 Management**

#### **3.1 Diversity**

The National Weather Service is dedicated to creating a workplace where all people are respected as individuals and valued for their contributions to accomplishing NWS's mission. The NWS fosters an inclusive, supportive, open, challenging and innovative work environment to enable employees to be positive, creative and reach their full

potential. The NWS will continue to capitalize on the diversity of its workforce through the following actions

- Assist in the planning and participate in NOAA's Diversity Education and Network Conference (3<sup>rd</sup>)
- Complete all steps required by NOAA as a result of SFA-II (4<sup>th</sup>)
- Provide diversity training opportunities for all NWS Employees (All)
- Conduct regular meetings of the NWS Diversity Council (All)
- Work to establish meaningful performance measures and accountability in managing the diversity of our workforce (All)

### **3.2 Affirmative Action**

The NWS supports NOAA's Affirmative Employment Plan and Strategic goals to increase representation of Women, Minorities and People with Disabilities (WMD). The NWS will continue to foster and promote opportunities for advancement, training, and career development of its diverse workforce. NWS has set a goal to increase its representation of women and minorities by 1 percent.

NWS Affirmative Employment activities include:

- Increase relationships with Minority Serving Institutions (MSIs) (All)
- Host NWS EEO Conference (4<sup>th</sup>)
- Revise MSI resource guide to include minority organizations for NWS recruitment (4<sup>th</sup>)
- Support teams established to implement the EEO goals of and objectives in the NWS Strategic Plan [e.g. WCM Initiative Team (WIT), Position Analysis Change Team (PACT)] (4<sup>th</sup>)
- Promote annual training for all employees to understand NWS Strategic Plan goals, and Affirmative Employment, and EEO policies and procedures (All Quarters)
- Analyze exit survey data to identify and affect actions to correct issues related to affirmative action and representation in the workplace (4<sup>th</sup>)

- Participate in NOAA's Graduate Scientist Program (4<sup>th</sup>)
- Recruit 37 students for DOC's Post Secondary Internship and NOAA Faculty/Student Intern Research Program (3<sup>rd</sup>)
- Recruit 8 students for the High School/High Tech Program and undergraduate students for students with disabilities (3<sup>rd</sup>)

### **3.3 Employee Development and Training**

The NWS places a high priority on employee development and training. In FY 2002, NWS will continue to use the National Strategic Training and Education Plan (NSTEP) to integrate and prioritize training requirements. The NWS will complete the following actions:

- Fill the Chief of Training position (SES level)
- Set aside 1.5% of total NWS salaries and benefits for training
- Provide up to 11 residence classes and workshops at COMET covering advanced forecasting techniques, climate, and Mesoscale Analysis and Prediction.
- Provide up to 112 residence classes at the NWS Training Center in a number of areas including maintenance, system operations, management, and leadership.
- Develop a new distance learning aviation course focusing on forecasting fog and stratus.
- Provide 1600 participant session hours of teletraining instructional materials on new software associated with AWIPS and WSR-88D.
- Release up to 10 hours of Internet training materials on numerical weather prediction, hydrology, fog forecasting, heavy precipitation forecasting, and integrated sensor data applications.
- Release up to 3 hydrometeorological case studies for use in the Weather Event Simulator.
- Continue updating of web-based numerical weather prediction training.
- Provide WSR-88D Distant Learning Operations training for up to 81 new field forecasters.

- Provide a new Data Acquisition Operations course for up to 64 employees.
- Complete team training for up to 200 employees in 12 field offices.
- Complete six Warning Decision Making (severe weather and winter weather) workshops for up to 162 employees
- Complete leadership training for up to 50 employees
- Complete fall and spring CFO Conferences

### **3.4 Environmental Compliance**

NWS will continue to emphasize both environmental compliance and safety. This will include continued implementation of policy, procedures, and training to improve environmental compliance and employee safety. Specifically, NWS will complete the following actions:

- Complete environmental compliance refresher training for 31 NWS employees (4<sup>th</sup>) which includes identification and handling of hazardous substances and hazardous wastes.
- Participate in facility environmental and safety assessments and ensure timely resolution of findings (4<sup>th</sup>)
- Complete fall protection and rescue training for 144 employees (4<sup>th</sup>)

## **4.0 Other Information**

### **4.1 Minority Serving Institutions**

NWS will increase its relationship with Minority Serving Institutions (MSI), including Historically Black Colleges/Universities (HBCU), Hispanic Serving Institutions, and Tribal Colleges/Universities. Specific activities include:

- Recruit two MSI faculty members for the NOAA Faculty Research Program (temporary summer positions) (3<sup>rd</sup>)
- Provide financial support to the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) (4<sup>th</sup>)
- Establish a partnership with at least three new MSIs (4<sup>th</sup>)
- Visit at least 10 new MSIs to establish relationships (All Quarters)

- Expand vacancy advertising in minority serving publications and journals (All Quarters)

#### **4.2 Validation and Verification for GPRA Measures**

Verification is the process of comparing the predicted weather to the actual weather. The process begins with the collection of warnings, forecasts and corresponding observational data from every NWS office. The data are quality controlled at the local and national level. Observational data not recorded in an automated manner are subject to additional scrutiny. These data are entered into a program at the local level requires the source of the data be recorded for each event, all required data fields be completed, and all the data points be consistent with expected values based on the type of event. The data are also subject to random review at the national level.

To increase agency focus on and use of annual performance data, NWS conducted a review and analysis of FY 2001 GPRA performance measure results. The review included a detailed statistical trend analysis of past performance and a comparison of planned performance targets versus actual performance. This information coupled with performance gains associated with science and technology initiatives provided the basis for updating performance measure targets in this Plan and the DOC Annual Performance Plan.

During FY 2002, the following activities will be taken to further improve use of performance data:

- Quarterly analysis of results versus targets and determination of cause factors for any variances (All Quarters)
- Complete development of a web site allowing field access to marine wind and wave forecasts, and advisories and warnings performance data (All Quarters)
- Begin software development for an improved Terminal Aerodrome Forecast verification program (3<sup>rd</sup> Qtr)
- Begin development of a program for improved marine wind/wave verification. (4<sup>th</sup> Qtr)

